

REFERENCE: R-1015

PROJECT: 34360

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STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
GEOTECHNICAL ENGINEERING UNIT

STRUCTURE
SUBSURFACE INVESTIGATION

COUNTY CRAVEN
PROJECT DESCRIPTION US 70 (HAVELOCK BYPASS)
FROM NORTH OF CARTERET/CRAVEN COUNTY
LINE TO NORTH OF PINE GROVE ROAD
SITE DESCRIPTION SITE 1 – DUAL BRIDGES NO.
272 AND NO. 273 ON -RPIAB- (US 70 BUS.) OVER
US 70 BYPASS BETWEEN US 70 & SR 1824
-L- STATION 96 + 97.07

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	R-1015	1	15

CAUTION NOTICE

THE SUBSURFACE INFORMATION AND THE SUBSURFACE INVESTIGATION ON WHICH IT IS BASED WERE MADE FOR THE PURPOSE OF STUDY, PLANNING AND DESIGN, AND NOT FOR CONSTRUCTION OR PAY PURPOSES. THE VARIOUS FIELD BORING LOGS, ROCK CORES AND SOIL TEST DATA AVAILABLE MAY BE REVIEWED OR INSPECTED IN RALEIGH BY CONTACTING THE N. C. DEPARTMENT OF TRANSPORTATION, GEOTECHNICAL ENGINEERING UNIT AT (919) 707-6850. THE SUBSURFACE PLANS AND REPORTS, FIELD BORING LOGS, ROCK CORES AND SOIL TEST DATA ARE NOT PART OF THE CONTRACT.

GENERAL SOIL AND ROCK STRATA DESCRIPTIONS AND INDICATED BOUNDARIES ARE BASED ON A GEOTECHNICAL INTERPRETATION OF ALL AVAILABLE SUBSURFACE DATA AND MAY NOT NECESSARILY REFLECT THE ACTUAL SUBSURFACE CONDITIONS BETWEEN BORINGS OR BETWEEN SAMPLED STRATA WITHIN THE BOREHOLE. THE LABORATORY SAMPLE DATA AND THE IN SITU (IN-PLACE) TEST DATA CAN BE RELIED ON ONLY TO THE DEGREE OF RELIABILITY INHERENT IN THE STANDARD TEST METHOD. THE OBSERVED WATER LEVELS OR SOIL MOISTURE CONDITIONS INDICATED IN THE SUBSURFACE INVESTIGATIONS ARE AS RECORDED AT THE TIME OF THE INVESTIGATION. THESE WATER LEVELS OR SOIL MOISTURE CONDITIONS MAY VARY CONSIDERABLY WITH TIME ACCORDING TO CLIMATIC CONDITIONS INCLUDING TEMPERATURES, PRECIPITATION AND WIND, AS WELL AS OTHER NON-CLIMATIC FACTORS.

THE BIDDER OR CONTRACTOR IS CAUTIONED THAT DETAILS SHOWN ON THE SUBSURFACE PLANS ARE PRELIMINARY ONLY AND IN MANY CASES THE FINAL DESIGN DETAILS ARE DIFFERENT. FOR BIDDING AND CONSTRUCTION PURPOSES, REFER TO THE CONSTRUCTION PLANS AND DOCUMENTS FOR FINAL DESIGN INFORMATION ON THIS PROJECT. THE DEPARTMENT DOES NOT WARRANT OR GUARANTEE THE SUFFICIENCY OR ACCURACY OF THE INVESTIGATION MADE, NOR THE INTERPRETATIONS MADE, OR OPINION OF THE DEPARTMENT AS TO THE TYPE OF MATERIALS AND CONDITIONS TO BE ENCOUNTERED. THE BIDDER OR CONTRACTOR IS CAUTIONED TO MAKE SUCH INDEPENDENT SUBSURFACE INVESTIGATIONS AS HE DEEMS NECESSARY TO SATISFY HIMSELF AS TO CONDITIONS TO BE ENCOUNTERED ON THE PROJECT. THE CONTRACTOR SHALL HAVE NO CLAIM FOR ADDITIONAL COMPENSATION OR FOR AN EXTENSION OF TIME FOR ANY REASON RESULTING FROM THE ACTUAL CONDITIONS ENCOUNTERED AT THE SITE DIFFERING FROM THOSE INDICATED IN THE SUBSURFACE INFORMATION.

- NOTES:
- THE INFORMATION CONTAINED HEREIN IS NOT IMPLIED OR GUARANTEED BY THE N. C. DEPARTMENT OF TRANSPORTATION AS ACCURATE NOR IS IT CONSIDERED PART OF THE PLANS, SPECIFICATIONS OR CONTRACT FOR THE PROJECT.
 - BY HAVING REQUESTED THIS INFORMATION, THE CONTRACTOR SPECIFICALLY WAIVES ANY CLAIMS FOR INCREASED COMPENSATION OR EXTENSION OF TIME BASED ON DIFFERENCES BETWEEN THE CONDITIONS INDICATED HEREIN AND THE ACTUAL CONDITIONS AT THE PROJECT SITE.

PERSONNEL

P. GRAINGER

GET SOLUTIONS

INVESTIGATED BY J. K. CRENSHAW

DRAWN BY W. SHUECRAFT

CHECKED BY B. HOWEY

SUBMITTED BY B. D. KEANEY

DATE JULY, 2018



DocuSigned by:

Jared K. Crenshaw

8/15/2018

3AB1C06A8356A7

SIGNATURE

DATE

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

SOIL DESCRIPTION

SOIL IS CONSIDERED UNCONSOLIDATED, SEMI-CONSOLIDATED, POWER AUGER AND YIELD LESS THAN 100 BLOWS PER FOOT ACCORDING TO THE STANDARD PENETRATION TEST (AASHTO T 206, ASTM D1586). SOIL CLASSIFICATION IS BASED ON THE AASHTO SYSTEM. BASIC DESCRIPTIONS GENERALLY INCLUDE THE FOLLOWING: CONSISTENCY, COLOR, TEXTURE, MOISTURE, AASHTO CLASSIFICATION, AND OTHER PERTINENT FACTORS SUCH AS MINERALOGICAL COMPOSITION, ANGULARITY, STRUCTURE, PLASTICITY, ETC. FOR EXAMPLE, VERY STIFF,GRAY,SILTY CLAY,MOIST WITH INTERBEDDED FINE SAND LAYERS,HIGHLY PLASTIC,A-7-6

SOIL LEGEND AND AASHTO CLASSIFICATION

GENERAL CLASS.	GRANULAR MATERIALS (≤ 35% PASSING #200)				SILT-CLAY MATERIALS (> 35% PASSING #200)				ORGANIC MATERIALS		
GROUP CLASS.	A-1	A-3	A-2	A-4	A-5	A-6	A-7	A-1,A-2	A-3	A-4,A-5	
SYMBOL											
% PASSING #10 #40 #200	50 MX 30 MX 15 MX	50 MX 25 MX 10 MX	35 MX 35 MX 35 MX	35 MX 35 MX 35 MX	36 MN 36 MN 36 MN	36 MN 36 MN 36 MN	36 MN 36 MN 36 MN				
MATERIAL PASSING #40 LL PI	— 6 MX		— NP	40 MX 10 MX	41 MN 10 MX	40 MX 11 MN	41 MN 11 MN	40 MX 10 MX	41 MN 10 MX	40 MX 11 MN	41 MN 11 MN
GROUP INDEX	0		0	4 MX		8 MX	12 MX	16 MX	NO MX		
USUAL TYPES OF MAJOR MATERIALS	STONE FRAGS, GRAVEL, AND SAND		FINE SAND	SILTY OR CLAYEY GRAVEL AND SAND		SILTY SOILS		CLAYEY SOILS		SOILS WITH LITTLE OR MODERATE AMOUNTS OF ORGANIC MATTER	
GEN. RATING AS SUBGRADE	EXCELLENT TO GOOD				FAIR TO POOR				FAIR TO POOR	POOR	UNSATISFACTORY
PI OF A-7-5 SUBGROUP IS ≤ LL - 30 ; PI OF A-7-6 SUBGROUP IS > LL - 30											

CONSISTENCY OR DENSENESS

PRIMARY SOIL TYPE	COMPACTNESS OR CONSISTENCY	RANGE OF STANDARD PENETRATION RESISTANCE (N-VALUE)	RANGE OF UNCONFINED COMPRESSIVE STRENGTH (TONS/FT ²)
GENERALLY GRANULAR MATERIAL (NON-COHESIVE)	VERY LOOSE LOOSE MEDIUM DENSE DENSE VERY DENSE	< 4 4 TO 10 10 TO 30 30 TO 50 > 50	N/A
GENERALLY SILT-CLAY MATERIAL (COHESIVE)	VERY SOFT SOFT MEDIUM STIFF STIFF VERY STIFF HARD	< 2 2 TO 4 4 TO 8 8 TO 15 15 TO 30 > 30	< 0.25 0.25 TO 0.5 0.5 TO 1.0 1 TO 2 2 TO 4 > 4

TEXTURE OR GRAIN SIZE

U.S. STD. SIEVE SIZE OPENING (MM)	4	10	40	60	200	270
	4.76	2.00	0.42	0.25	0.075	0.053
BOULDER (BLDR.)	COBBLE (COB.)	GRAVEL (GR.)	COARSE SAND (CSE. SD.)	FINE SAND (F SD.)	SILT (SL.)	CLAY (CL.)

SOIL MOISTURE - CORRELATION OF TERMS

SOIL MOISTURE SCALE (ATTERBERG LIMITS)	FIELD MOISTURE DESCRIPTION	GUIDE FOR FIELD MOISTURE DESCRIPTION
LL PL	- SATURATED - (SAT.)	USUALLY LIQUID; VERY WET, USUALLY FROM BELOW THE GROUND WATER TABLE
	- WET - (W)	SEMISOLID; REQUIRES DRYING TO ATTAIN OPTIMUM MOISTURE
OM SL	- MOIST - (M)	SOLID; AT OR NEAR OPTIMUM MOISTURE
	- DRY - (D)	REQUIRES ADDITIONAL WATER TO ATTAIN OPTIMUM MOISTURE

PLASTICITY

PLASTICITY INDEX (PI)	DRY STRENGTH
NON PLASTIC	VERY LOW
SLIGHTLY PLASTIC	SLIGHT
MODERATELY PLASTIC	MEDIUM
HIGHLY PLASTIC	HIGH

COLOR

DESCRIPTIONS MAY INCLUDE COLOR OR COLOR COMBINATIONS (TAN, RED, YELLOW-BROWN, BLUE-GRAY). MODIFIERS SUCH AS LIGHT, DARK, STREAKED, ETC. ARE USED TO DESCRIBE APPEARANCE.

GRADATION

WELL GRADED - INDICATES A GOOD REPRESENTATION OF PARTICLE SIZES FROM FINE TO COARSE. UNIFORMLY GRADED - INDICATES THAT SOIL PARTICLES ARE ALL APPROXIMATELY THE SAME SIZE. GAP-GRADED - INDICATES A MIXTURE OF UNIFORM PARTICLE SIZES OF TWO OR MORE SIZES.

ANGULARITY OF GRAINS

THE ANGULARITY OR ROUNDNESS OF SOIL GRAINS IS DESIGNATED BY THE TERMS: ANGULAR, SUBANGULAR, SUBROUND, OR ROUNDED.

MINERALOGICAL COMPOSITION

MINERAL NAMES SUCH AS QUARTZ, FELDSPAR, MICA, TALC, KAOLIN, ETC. ARE USED IN DESCRIPTIONS WHEN THEY ARE CONSIDERED OF SIGNIFICANCE.

COMPRESSIBILITY

SLIGHTLY COMPRESSIBLE	LL < 31
MODERATELY COMPRESSIBLE	LL = 31 - 50
HIGHLY COMPRESSIBLE	LL > 50

PERCENTAGE OF MATERIAL

ORGANIC MATERIAL	GRANULAR SOILS	SILT - CLAY SOILS	OTHER MATERIAL
TRACE OF ORGANIC MATTER	2 - 3%	3 - 5%	TRACE
LITTLE ORGANIC MATTER	3 - 5%	5 - 12%	LITTLE
MODERATELY ORGANIC	5 - 10%	12 - 20%	SOME
HIGHLY ORGANIC	> 10%	> 20%	HIGHLY

GROUND WATER

	WATER LEVEL IN BORE HOLE IMMEDIATELY AFTER DRILLING
	STATIC WATER LEVEL AFTER 24 HOURS
	PERCHED WATER, SATURATED ZONE, OR WATER BEARING STRATA
	SPRING OR SEEP

MISCELLANEOUS SYMBOLS

	ROADWAY EMBANKMENT (RE) WITH SOIL DESCRIPTION
	SOIL SYMBOL
	ARTIFICIAL FILL (AF) OTHER THAN ROADWAY EMBANKMENT
	INFERRED SOIL BOUNDARY
	INFERRED ROCK LINE
	ALLUVIAL SOIL BOUNDARY
	DIP & DIP DIRECTION OF ROCK STRUCTURES
	TEST BORING
	AUGER BORING
	CORE BORING
	MONITORING WELL
	PIEZOMETER INSTALLATION
	SLOPE INDICATOR INSTALLATION
	CONE PENETROMETER TEST
	SOUNDING ROD
	TEST BORING WITH CORE
	SPT N-VALUE

RECOMMENDATION SYMBOLS

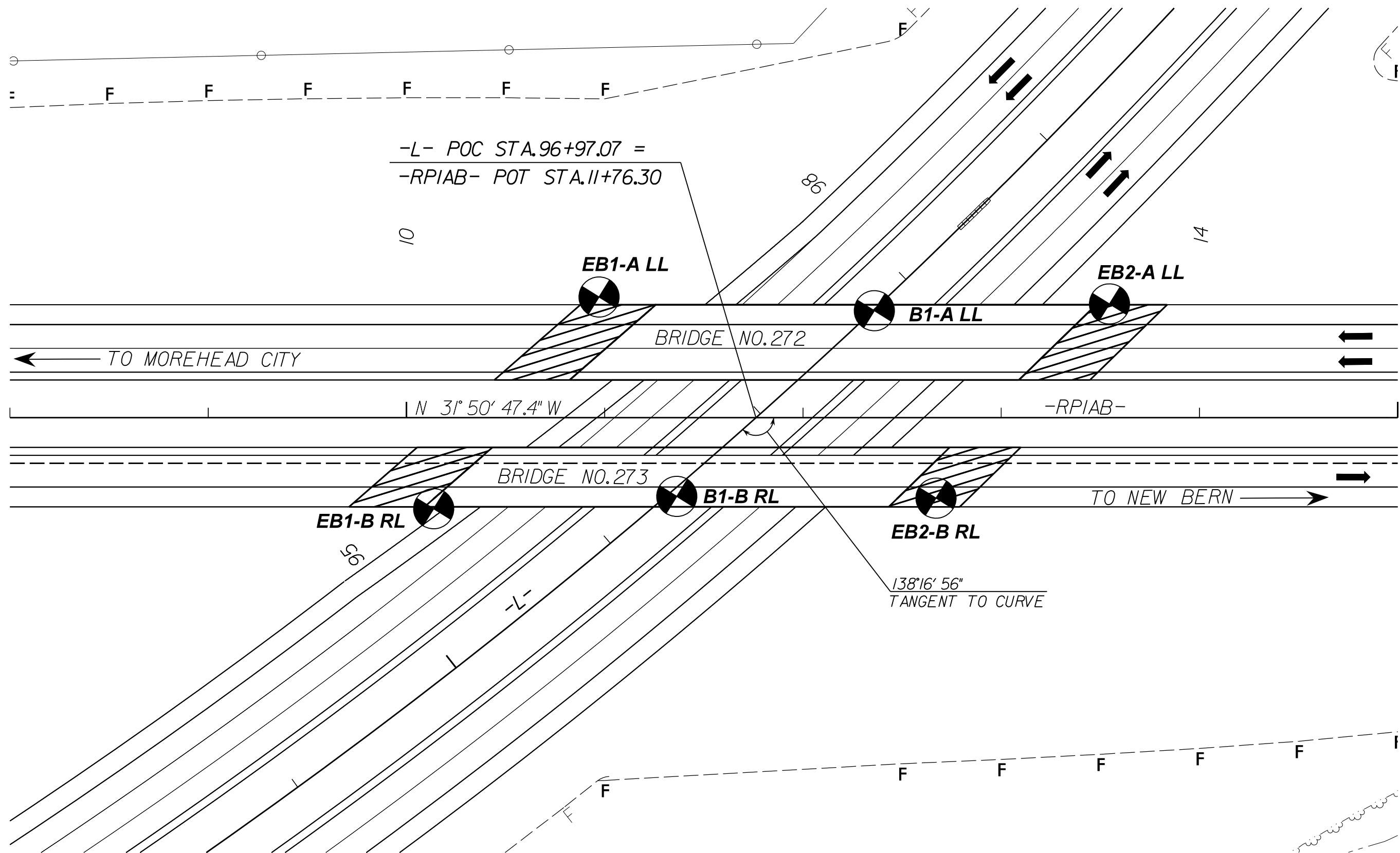
	UNDERCUT
	UNCLASSIFIED EXCAVATION - UNSUITABLE WASTE
	UNCLASSIFIED EXCAVATION - ACCEPTABLE DEGRADABLE ROCK

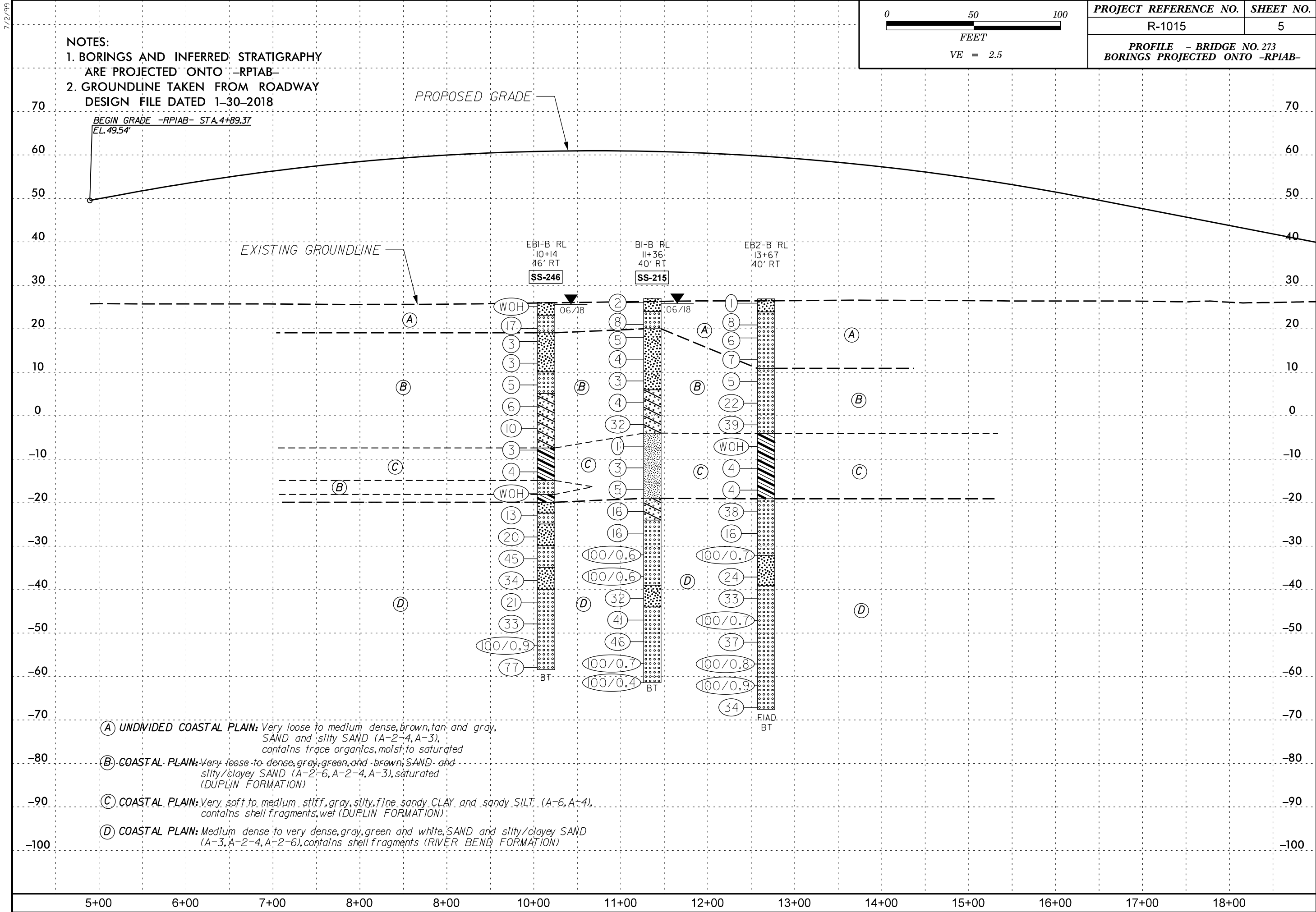
ABBREVIATIONS

AR - AUGER REFUSAL	BT - BORING TERMINATED	CL - CLAY	CPT - CONE PENETRATION TEST	CSE. - COARSE	DMT - DILATOMETER TEST	DPT - DYNAMIC PENETRATION TEST	e - VOID RATIO	F - FINE	FOSS. - FOSSILIFEROUS	FRAC. - FRACTURED, FRACTURES	FRAGS. - FRAGMENTS	HL. - HIGHLY	MED. - MEDIUM	MICA. - MICACEOUS	MOD. - MODERATELY	NP. - NON PLASTIC	ORG. - ORGANIC	PMT - PRESSUREMETER TEST	SAP. - SAPROLITE	SD. - SAND, SANDY	SL. - SILT, SILTY	SLT. - SLIGHTLY	TCR - TRICONE REFUSAL	w - MOISTURE CONTENT	V - VERY	VST - VANE SHEAR TEST	WEA. - WEATHERED	7 - UNIT WEIGHT	7g - DRY UNIT WEIGHT		
												<div>SAMPLE ABBREVIATIONS</div> <table><tr><td>S - BULK</td><td>SS - SPLIT SPOON</td><td>ST - SHELBY TUBE</td><td>RS - ROCK</td><td>RT - RECOMPACTED TRIAXIAL</td><td>CBR - CALIFORNIA BEARING RATIO</td></tr></table>														S - BULK	SS - SPLIT SPOON	ST - SHELBY TUBE	RS - ROCK	RT - RECOMPACTED TRIAXIAL	CBR - CALIFORNIA BEARING RATIO
S - BULK	SS - SPLIT SPOON	ST - SHELBY TUBE	RS - ROCK	RT - RECOMPACTED TRIAXIAL	CBR - CALIFORNIA BEARING RATIO																										

EQUIPMENT USED ON SUBJECT PROJECT

DRILL UNITS:	ADVANCING TOOLS:	HAMMER TYPE:
<input checked="" type="checkbox"/> CME-45C	<input checked="" type="checkbox"/> CLAY BITS	<input checked="" type="checkbox"/> AUTOMATIC <input type="checkbox"/> MANUAL
<input type="checkbox"/> CME-55	<input type="checkbox"/> 6	

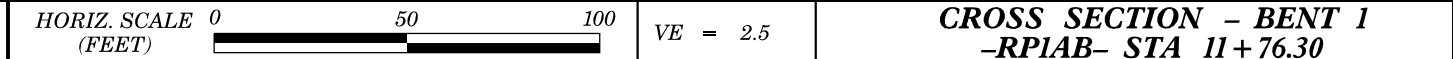
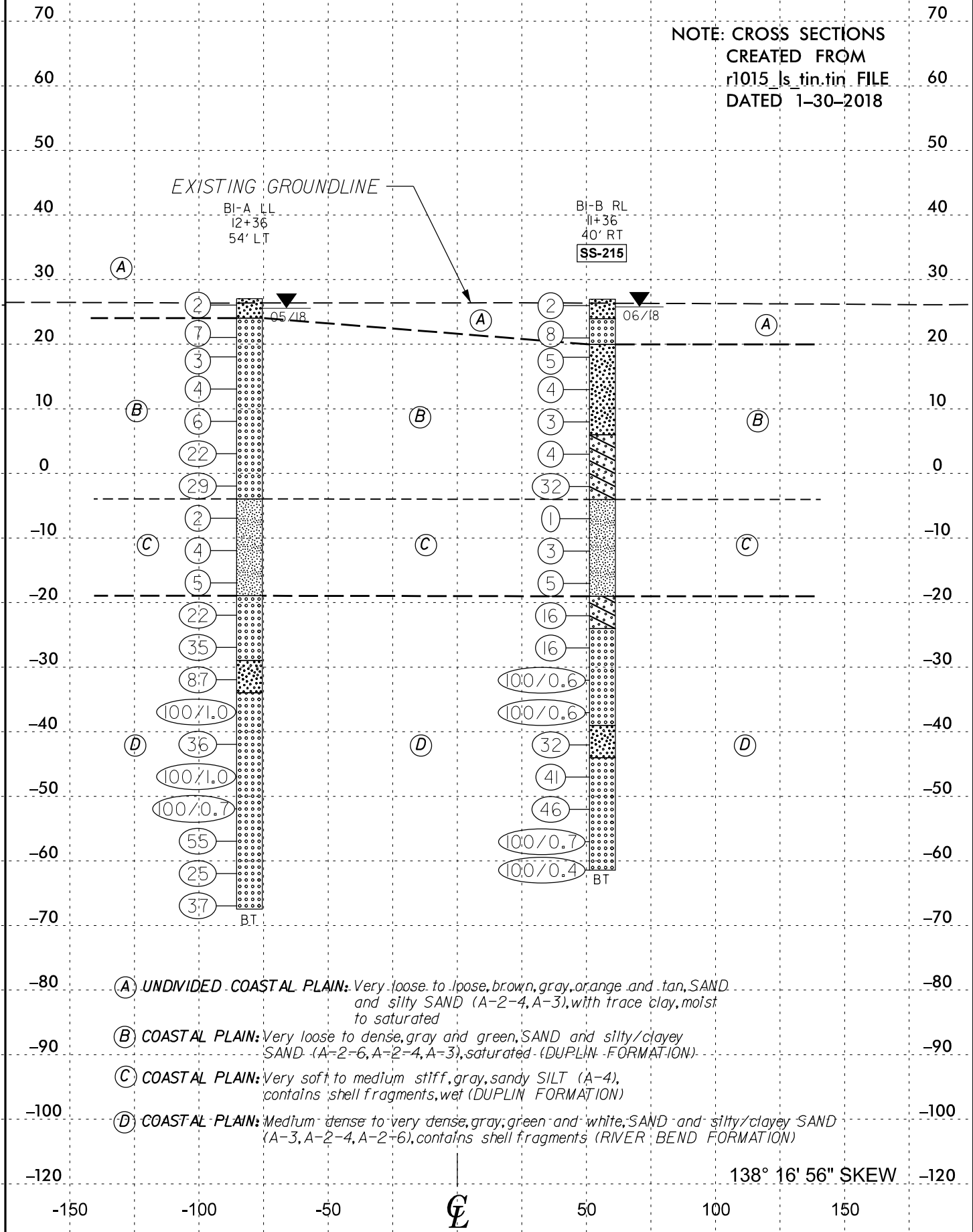
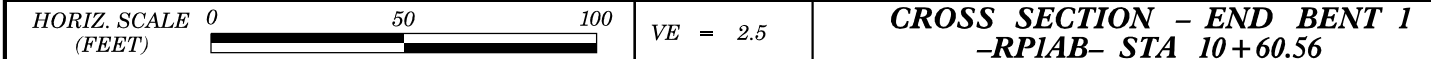
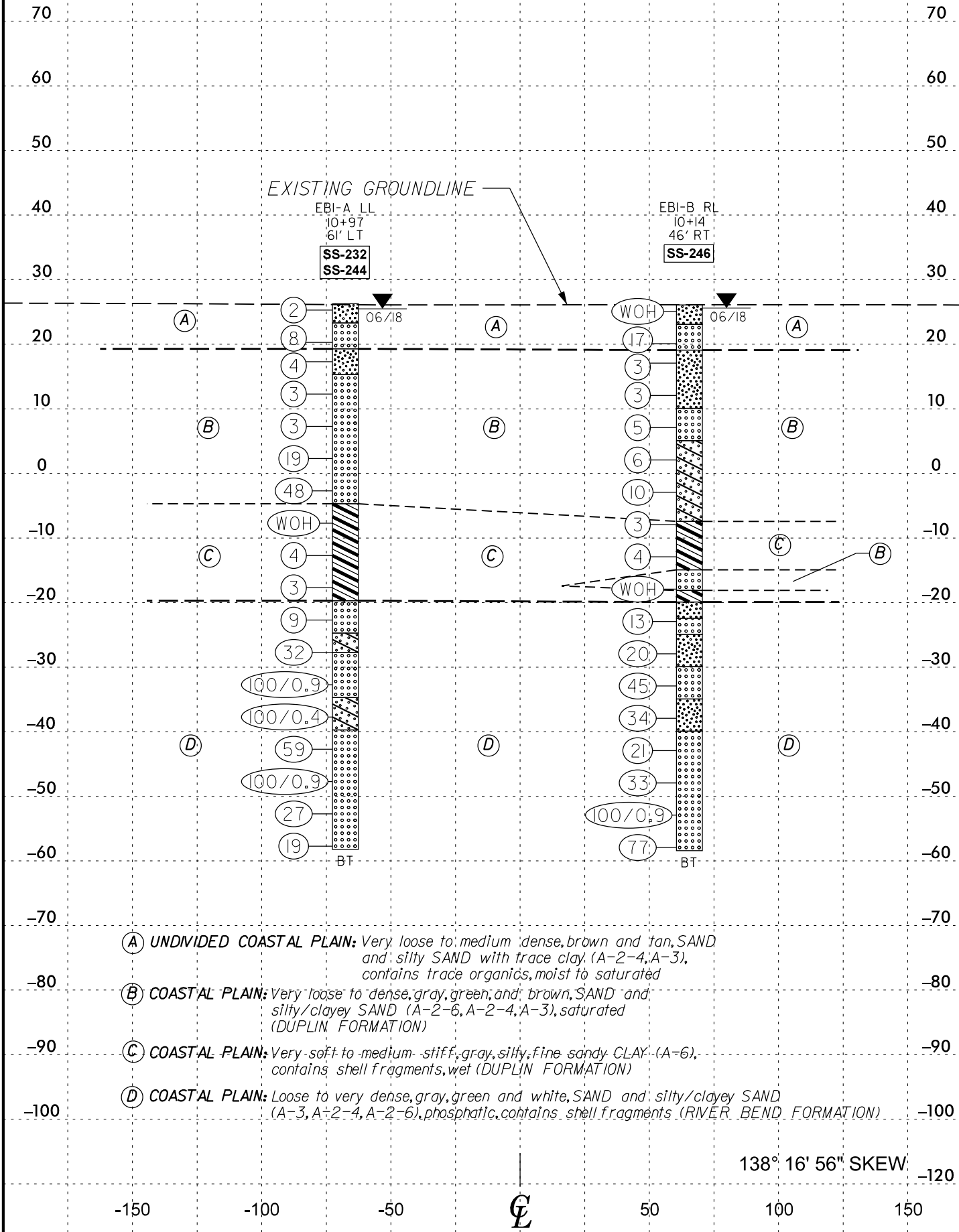




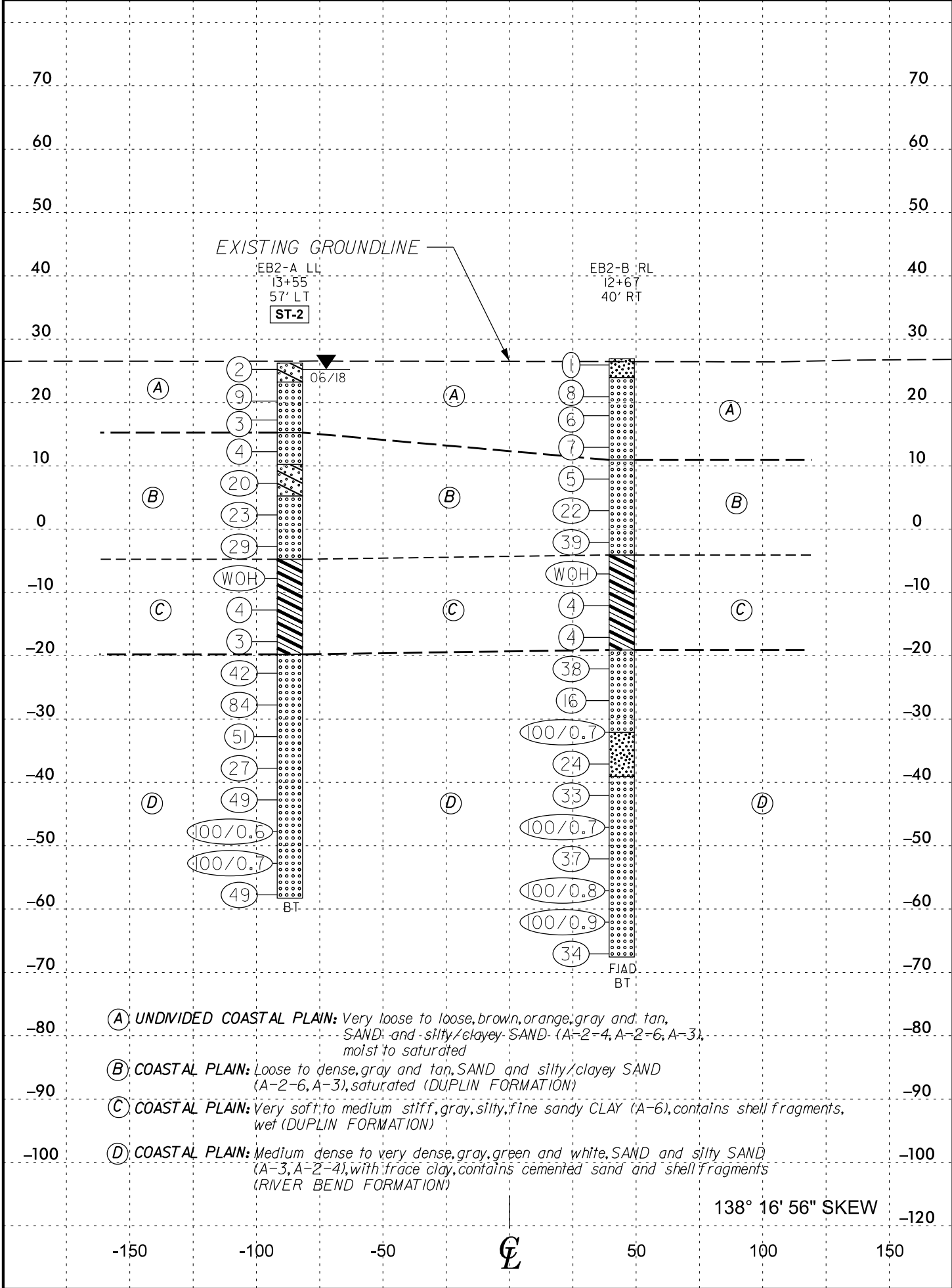
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PROJECT REFERENCE NO.	SHEET NO.
R-1015	6

NOTE: CROSS SECTIONS
CREATED FROM
r1015_ls_tin.tin FILE
DATED 1-30-2018

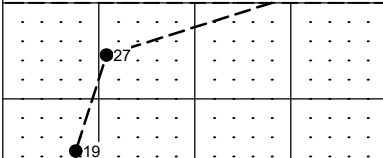


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NOTE: CROSS SECTIONS
CREATED FROM
r1015_ls_tin.tin FILE
DATED 1-30-2018

NCDOT BORE DOUBLE R-1015 S1_GEO_BRDG.GPJ NC_DOT_GDT 7/24/18

WBS 34360.1.1			TIP R-1015			COUNTY CRAVEN			GEOLOGIST Grainger, P.					
SITE DESCRIPTION Bridge No. 272 on -RP1AB- (US 70 Bus.) Over US 70 Bypass Between US 70 and SR 1824									GROUND WTR (ft)					
BORING NO. EB1-A LL			STATION 10+97			OFFSET 61 ft LT			ALIGNMENT -RP1AB-			0 HR.	N/A	
COLLAR ELEV. 26.3 ft			TOTAL DEPTH 84.5 ft			NORTHING 407,540			EASTING 2,632,572			24 HR.	0.8	
DRILL RIG/HAMMER EFF./DATE GET0674 CME-45C 93% 03/22/2018						DRILL METHOD Mud Rotary			HAMMER TYPE Automatic					
DRILLER Donahue, T.			START DATE 06/04/18			COMP. DATE 06/05/18			SURFACE WATER DEPTH N/A					
ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
			0.5ft	0.5ft	0.5ft	0	25	50	75	100				
-50						Match Line								
	-51.7	78.0	11	12	15							Sat.		Gray and green, fine to coarse, SAND and clayey SAND (A-3(0), A-2-6), phosphatic, contains shell fragments (RIVER BEND FORMATION) (continued)
-55	-56.7	83.0	8	10	9						SS-244	32%		-58.2 84.5
														Boring Terminated at Elevation -58.2 ft in SAND (RIVER BEND FORMATION)

GEOTECHNICAL BORING REPORT

BORE LOG

[illegible]

WBS 34360.1.1			TIP R-1015			COUNTY CRAVEN			GEOLOGIST Grainger, P.			
SITE DESCRIPTION Bridge No. 273 on -RP1AB- (US 70 Bus.) Over US 70 Bypass Between US 70 and SR 1824									GROUND WTR (ft)			
BORING NO. EB1-B RL			STATION 10+14			OFFSET 46 ft RT			ALIGNMENT -RP1AB-			0 HR. N/A
COLLAR ELEV. 26.1 ft			TOTAL DEPTH 84.5 ft			NORTHING 407,526			EASTING 2,632,707			24 HR. 0.5
DRILL RIG/HAMMER EFF./DATE GET0674 CME-45C 93% 03/22/2018						DRILL METHOD Mud Rotary			HAMMER TYPE Automatic			
DRILLER Donahue, T.			START DATE 06/05/18			COMP. DATE 06/05/18			SURFACE WATER DEPTH N/A			
ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT				SAMP. NO.	LOG	SOIL AND ROCK DESCRIPTION
			0.5ft	0.5ft	0.5ft	0	25	50	75	100		
-50						Match Line						
	-51.9	78.0	39	55	45/0.4	100/0.9				Sat.		Gray, white, and green, silty SAND and SAND (A-2-4, A-3), contains shell fragments (RIVER BEND FORMATION) continued
-55												
	-56.9	83.0	61	29	48	77				Sat.		-58.4 84.5
												Boring Terminated at Elevation -58.4 ft in SAND (RIVER BEND FORMATION)
												Strata breaks in Split spoon at a depth of 33.5' and 44.2'.

NC DOT BORE DOUBLE R-1015 S1 GEO BRDG.GPJ NC DOT.GDT 7/24/18

NCDOT BORE DOUBLE R-1015 S1_GEO_BRDG.GPJ NC_DOT_GDT 7/24/18

[illegible]

NCDOT BORE DOUBLE R-1015 S1 GEO BRDG.GPJ NC_DOT.GDT 7/24/18

WBS 34360.1.1			TIP R-1015			COUNTY CRAVEN			GEOLOGIST Grainger, P.					
SITE DESCRIPTION Bridge No. 273 on -RP1AB- (US 70 Bus.) Over US 70 Bypass Between US 70 and SR 1824									GROUND WTR (ft)					
BORING NO. B1-B RL			STATION 11+36			OFFSET 40 ft RT			ALIGNMENT -RP1AB-			0 HR. N/A		
COLLAR ELEV. 27.0 ft			TOTAL DEPTH 88.4 ft			NORTHING 407,627			EASTING 2,632,637			24 HR. 1.2		
DRILL RIG/HAMMER EFF./DATE GET0674 CME-45C 93% 03/22/2018						DRILL METHOD Mud Rotary			HAMMER TYPE Automatic					
DRILLER Donahue, T.			START DATE 06/04/18			COMP. DATE 06/04/18			SURFACE WATER DEPTH N/A					
ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	MOI	L O G	SOIL AND ROCK DESCRIPTION
			0.5ft	0.5ft	0.5ft	0	25	50	75	100				
-50						Match Line								
	-51.0	78.0	15	21	25	<div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><d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NCDOT BORE DOUBLE R-1015 S1 GEO BRDG.GPJ NC DOT GDT 7/24/18

[illegible]

NCDOT BORE DOUBLE R-1015 S1 GEO BRDG GPJ NC DOT.GDT 7/24/18[illegible]

SOIL TEST RESULTS															
SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING (SIEVES)			% MOISTURE	% ORGANIC
							C.SAND	F.SAND	SILT	CLAY	10	40	200		
SS- 246	46' RT	10+14	5. 0- 6. 5	A- 3(0)	NP	NP	19. 4	73. 6	1. 9	5. 1	100	100	8	27. 8	-
SS- 232	6 1' LT	10+97	23. 0- 24. 5	A- 3(0)	NP	NP	6. 4	85. 1	3. 6	4. 9	100	100	10	26. 7	-
SS- 244	6 1' LT	10+97	83. 0- 84. 5	A- 3(0)	NP	NP	9. 5	82. 9	2. 9	4. 7	100	98	8	31. 5	-
SS- 215	40' RT	11+36	33. 0- 34. 5	A- 4(0)	26	7	4. 3	60. 4	18. 7	16. 7	100	99	42	30. 8	-
ST- 3	52' LT	13+54	33. 0- 35. 0	A- 6(2)	30	11	3. 2	59. 2	19. 1	18. 4	100	99	46	31. 0	-

Photo 1: Looking towards End Bent 2 and up station of -RP1AB-

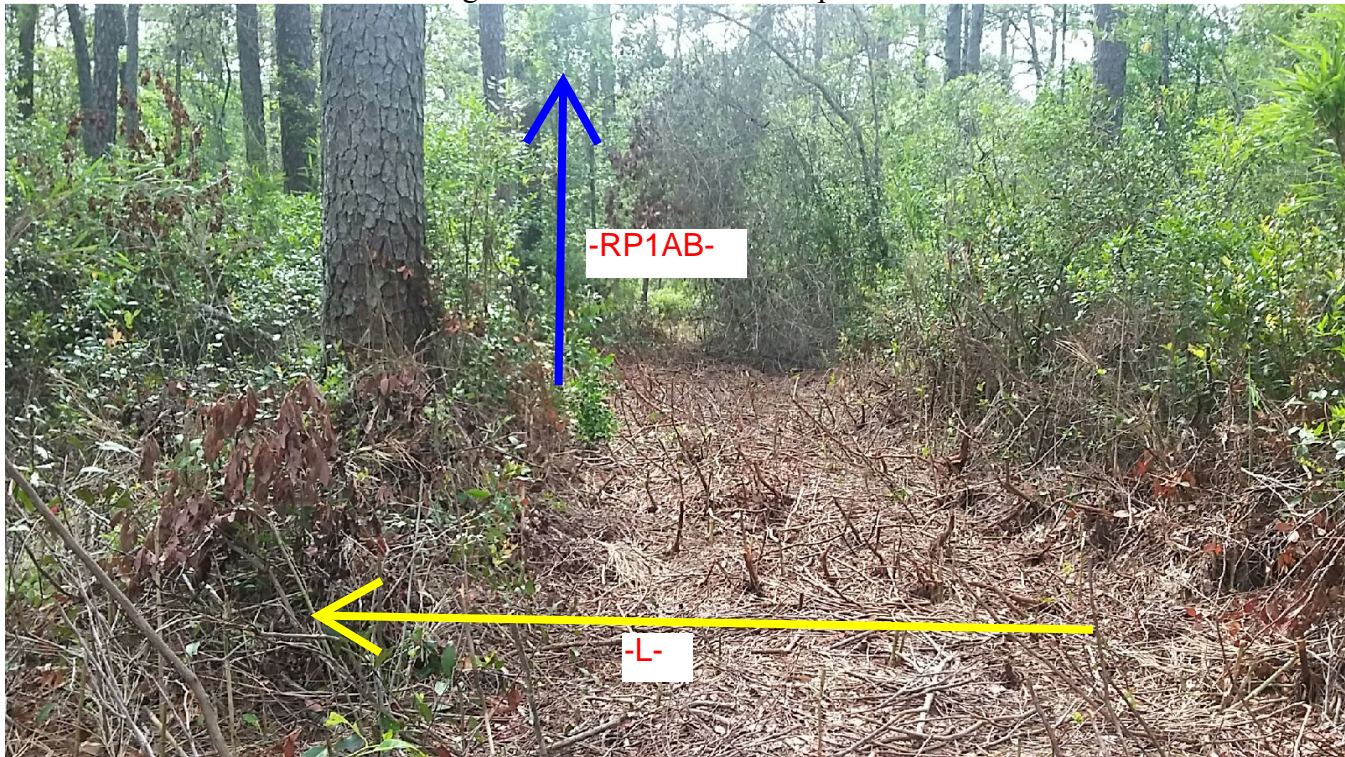


Photo 2: Looking towards End Bent 1 and down station of -RP1AB-

